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Published

Without international search report and to be republished upon receipt of that report.

(54) Title: METHOD AND APPARATUS FOR IMPROVING CLASSROOM AMPLIFICATION SYSTEMS AND OTHER RF-TYPE AMPLIFICATION SYSTEMS

(57) Abstract

An RF-type amplification system, such as a classroom amplification system, employs technology adapted from a cordless telephone system to overcome interference. The amplification system includes a portable remote unit (87) and a base unit (82). Remote unit (87) includes: a microphone (151) for detecting a voice and generating corresponding voice signals; a transmitter (160, 161) which generates RF signals containing the voice signals as well as control signals provided by the central processing unit (179) of remote unit (87), and an antenna (168) for transmitting the RF signals and for receiving RF signals from base unit (82). Base unit (82) includes an antenna (107) which receives the RF signals transmitted by the remote unit and a receiver (108, 114, 115, 117) which detects the RF signals and separates the RF signals into the voice signals and control signals. The control signals are identified by a code detector (118) of base unit (82) and evaluated by a CPU (130). If the values of the control signals are as expected, the voice signals are processed through a speech network (121) and provided at a communications interface to an audio power amplifier (147) which amplifies the voice signals and supplies the voice signals to speakers which audibly project the voice signals as sound. Base unit (82) further includes a transmitter (133, 135) for generating RF signals containing control signals but no voice signals, that are transmitted to remote unit (87), thereby effecting one-way transmission of voice signals and two-way transmission of control signals between remote unit (87) and base unit (82).